

REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-4, 9-13, 18-24 and 29-32 are presently active in this case. The present Amendment amends Claims 1-4, 9-11, 13, 18-19, 22-24 and 30 and cancels Claims 5-8, 14-17 and 25-28.

The outstanding Office Action objected to Claim 1 because of informalities. Claims 1, 11 and 22 were provisionally rejected under the obviousness-type double patenting doctrine in view of co-pending U.S. Application Serial No. 09/818,612. Claims 1-9, 11-18 and 22-29 were provisionally rejected under the obviousness-type double patenting doctrine in view of co-pending U.S. Application Serial No. 10/323,792. Claims 1-4, 9-13, 18-19, 22-24 and 29-30 were rejected under 35 U.S.C. §103(a) as unpatentable over Zhou et al. (IEEE Publication, “Evaluation of environmentally conscious product designs,” 1998 IEEE international conference on systems, man and cybernetics, San Diego, USA, October 1998, herein “Zhou”) in view of Anderi et al. (Conference Publication, “Design for environment - a computer-based cooperative method to consider the entire life cycle,” Ecodesign 1999, First international symposium on environmentally conscious design and inverse manufacturing, Tokyo, Japan, February 1999, herein “Anderi”).

Claims 20-21 and 31-32 were allowed and Claims 5-8, 14-17 and 25-28 were indicated as allowable if rewritten in independent form by including all the limitations of the

base claim and any intervening claims. Applicants acknowledge with appreciation the indication of allowable subject matter.

In response to the indication of allowable subject matter, Claims 5-8, 14-17 and 25-28 are cancelled to be presented in a continuation application.

In response to the provisional rejections of Claims 1, 11 and 22 and Claims 1-9, 11-18 and 22-29 under the obviousness-type double patenting doctrine in view of the co-pending U.S. Applications with the serial numbers 09/818,612 and 10/323,792, respectively, Applicants are herewith filing a Terminal Disclaimer for both U.S. Applications 09/818,612 and 10/323,792.

In response to the objections to the claims, Claim 1 is amended to recite “configured to perform” instead “which perform.” In light of their formal nature, it is believed that the change does not raise a question of new matter.¹

Further, to clarify the claims, independent Claim 1 is amended to correct minor formalities and to be in more proper U.S. claim drafting form, to recite “a display device configured to display selectively the first objects and the second objects based on the information stored in the storage device and configured to draw lines selectively between the first objects and between the second objects,” and to recite “selecting the lines to associate between the first objects and between the second objects for reusing or recycling the first objects and the second objects.” Independent Claims 10, 11, 19, 22 and 30 are amended for consistency, to be in more proper U.S. claim drafting form, and to recite similar features.

¹ See MPEP 2163.06 stating that "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter."

These features find non-limiting support in the disclosure as originally filed and therefore do not raise any questions on new matter.²

Further, Claims 1-4, 9 and 13 are amended to correct minor formalities and be in more proper U.S. claim drafting form and Claim 24 is amended to recite “to-be-reused objects and/or the to-be-recycled objects” for consistency. Since these changes are only formal in nature, they do not raise any question on new matter.

In response to the rejection of Claims 1-4, 9-13, 18-19, 22-24 and 29-30 under 35 U.S.C. §103(a), Applicants respectfully request reconsideration of this rejection and traverse the rejection, as discussed next.

Briefly recapitulating, amended independent Claim 1 relates to an environmental impact estimation apparatus including a display device to display selectively first objects and second objects based on information stored in a storage device and to draw lines selectively between the first objects and between the second objects. The apparatus further includes a modeling device to perform life cycle modeling to generate a life cycle model, the life cycle modeling including reading the information concerning the first objects and the second objects from the storage device, and selecting the lines to associate between the first objects and between the second objects for reusing or recycling the first and second objects.

Amended independent Claims 10, 11, 19, 22 and 30 recite features similar to those of Claim 1 in the context of a plan aiding apparatus using a recovery product (Claim 10), an environmental impact estimation method (Claim 11), a plan aiding method using a recovery

² See Applicants' Specification e.g. at page 16, lines 5-15, page 19, lines 8-25 and from page 21, line 22, to page 22, line 27 and corresponding Figures 5A, 10A, 10B and 11.

product (Claim 19), a computer readable program (Claims 22 and 30). As explained in Applicants' Specification at page 6, lines 18-26, Applicants' invention improves upon background environmental impact estimation methods and apparatuses because the environment impact and the cost produced from a group of products in multi-generation products are precisely predicted and estimated. This makes it possible to execute effective reuse of parts or effective material recycling.

Turning now to the applied references, Zhou describes a method to evaluate a design in terms of cost and apply it to two personal computer designs.³ However, Claim 1 recites an environmental impact estimation apparatus including a display device to display selectively first objects and second objects and a modeling device to perform life cycle modeling to generate a life cycle model. The life cycle modeling includes the reading of the information concerning the first objects and the second objects, and the *selecting of the lines to associate between the first objects and between the second objects for reusing or recycling them*. In other words, the lines drawn between the first objects and between the second objects are selected to associate between the first objects and between the second objects for reusing or recycling the first and second objects.⁴ Zhou shows a connection graph between individual nodes representing parts,⁵ however Zhou's paths between the parts are disassembly paths to illustrate disassembly sequences.⁶ Accordingly, Zhou neither teaches nor suggests a display means and also does not teach the lines associated between the first objects and between the

³ See Zhou in the Abstract

⁴ See Applicants' Specification at page 22, lines 16-20 and in Figure 11.

⁵ See Zhou at page 4059 in Figure 2.

⁶ See Zhou at page 4059 in paragraph 3.2

second objects for reusing or recycling them. Paths representing disassembly sequences, as taught by Zhou, *are not* lines associated between the first objects and second objects for reusing or recycling them, as claimed by Applicants.

Applicants respectfully submit, further, that also Anderi does not teach the above feature related to the selecting of the lines to associate between the first objects and between the second objects for reusing or recycling them. Anderi merely discloses a computer supported design environment for determining the environmental impact of all phases of a product lifecycle,⁷ but does not teach or suggest the claimed modeling device selecting the lines drawn between the first objects and the second objects to associate therebetween to reuse or recycle the first and second objects.

Therefore, even if the combination of the Zhou and Anderi publications is assumed to be proper, the combination fails to teach every element of the claimed invention. Specifically, the combination fails to teach the claimed selecting of the lines to associate between the first objects and second objects for reusing or recycling them. Accordingly, Applicants respectfully traverse, and request reconsideration of, this rejection based on these patents.⁸

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in

⁷ See Anderi in the Abstract.

⁸ See MPEP 2142 stating, as one of the three "basic criteria [that] must be met" in order to establish a *prima facie* case of obviousness, that "the prior art reference (or references when combined) must teach or suggest all the claim limitations," (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

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condition for formal Allowance. A Notice of Allowance for Claims 1-4, 9-13, 18-24 and 29-32 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representative at the below listed telephone number.

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